

Application No.: 08/995,715

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AMENDMENTS TO THE CLAIMS

Claims 1-47. Canceled.

43. (Currently amended) An image display system comprising:

(i) at least one complementary screen of one of light emitting or light source modulating devices producing light in a two dimensional array of N (a real number) pixels, from which array of pixels a plurality of raster elements are generated;

(b) a raster multiplying system comprising a plurality of optically connected light dividing elements, each said light dividing element to divide the light of the raster elements of the complementary screen into parts to form copies of the raster elements, with said copies of said raster elements forming corresponding raster elements in P blocks, each block of said P blocks generally comprising a two dimensional array of said raster element copies;

P. (c) an array of controllable modulators located after said raster multiplying system, each modulator of said array to independently modulate the raster elements of one of said P blocks; and

(d) a surface on which said P image blocks of a total number of M pixels are formed and displayed, where the number M exceeds the number N and where said surface preceding components of (a), (b) and (c) are placed in the mentioned order of the light path of the complementary screen.

Claim 49. Canceled.

50. (Previously presented) A system as in claim 48, further comprising a plurality of said complementary screens.

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Claim 51. Canceled.

52. (Previously presented) A system as in claim 48 wherein a lens raster matrix forms said raster multiplying system.

Claims 53 and 54. Canceled.

55. (Previously presented) A system as in claim 71 further comprising a plurality of said complementary screens.

56. (Previously presented) A system as in claim 71 further comprising means for optic compression of generated raster elements for increasing the brightness and pixel density of a scanning light beam.

57. (Previously presented) A method for forming an image on an image display surface by forming a plurality of constituent blocks of said image, so that the image is presented as comprised of a plurality of blocks, comprising the steps of:

(a) providing at least one complementary screen having a two dimensional array of N pixels and generating from said array of pixels a plurality of raster elements;

(b) using a raster multiplying system comprising a plurality of light dividing elements for dividing an incoming light beam of each raster element into parts, with said light dividing elements to separate a raster element corresponding light beam into a plurality of beam components to form copies of each said generated raster element in P blocks, each block generally comprising a two dimensional array of pixels;

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(c) independently modulating said beam components corresponding to the raster element copies of each of said P blocks;

(d) repeating the procedure of generating other raster elements from said complementary screen; and

(e) displaying the P image blocks having a total number of M pixels on an image display surface, where M is greater than N.

53. (Previously presented) A method as in claim 57 further comprising the step of using a plurality of complementary screens.

59. (Previously presented) A method as in claim 57 wherein a raster element comprises more than one pixel.

60. (Previously presented) A method as in claim 59, further comprising the step of subjecting a generated raster element to additional optical compression for increasing the brightness and pixel density of a sensitive plane scanning beam.

61. (Previously presented) A method as in claim 57 wherein a raster element is of the size of one pixel.

Claim 62. Canceled.

63. (Previously presented) A method as in claim 57 comprising the use of a lens raster matrix instead of said plurality of light dividing elements.

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Claims 64-66. Canceled.

67. (Previously presented) A method as in claim 73 wherein a raster element comprises a plurality of pixels.

Claim 68. Canceled.

69. (Currently amended) A 3D holographic image display system comprising:

(i) at least one complementary screen of one of light emitting or light source modulating devices in a two dimensional array of N (a real number) pixels, from which array of pixels a plurality of raster elements are generated;

P1 (b) a raster multiplying system comprising a plurality of passive and at least partly light transmitting elements to form copies of said generated raster elements of a said at least one complementary screen, with said raster element copies forming a raster in P blocks with each block generally comprising a two dimensional array of pixels;

(c) an array of controllable modulators located after said raster multiplying system, each modulator of said array to independently modulate the raster elements of one of said P blocks;

(d) a surface on which a hologram blocks of total number of M pixels are formed, where the number M exceeds number N and where said surface preceding components of (a), (b) and (c) are placed in the mentioned order of the light path of the complementary screen; and

(e) a holograph generator for producing a 3D holographic image from said surface.

Claim 70. Canceled.

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71. (Previously presented) A system as in claim 48 used for image recording further comprising:

(e) a photosensitive plane on which an outer image to be recorded is produced, said outer image comprising a plurality of said blocks, each block being of a two dimensional array of pixels, and all said blocks comprising said M pixels, where the number M exceeds the number N, and where said system components of (a), (b) and (c) are placed in the mentioned order of the light path of the complementary screen; and

(f) means to scan said outer image on said photosensitive plane into electric signals for recording.

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Claim 72. Canceled.

73. (Previously presented) A method as in claim 57 used for image recording wherein said image display surface of step (e) comprises a photosensitive plane on which an outer image is produced and further comprising that step (b) is followed by:

(f) converting the image information received on said plane by the projection of said beam components into P electric signals, one signal for one of said P blocks, for recording received information for P separate image elements; and

(g) repeating the procedure by successively generating other raster elements on said complementary screen, to simultaneously scan each of P blocks.

Claim 74. Canceled.

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75. (Previously presented) A method as in claim 57 further comprising the step of generating a 3D image from said image display surface.

75. (Previously presented) A method as in claim 57 further comprising the step of subjecting raster elements of said complementary screen to additional optical compression for increasing brightness and pixel density.

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77. (Previously presented) A system as in claim 48 further comprising means for optic compression of complementary screen raster elements for increasing brightness and pixel density.

73. (Previously presented) A system as in claim 48 further comprising partly transparent mirrors as said light dividing elements.

79. (Previously presented) A system as in claim 69 wherein an array of light dividing elements forms said raster multiplying system.

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